



US006951081B2

(12) **United States Patent**
Bonshor

(10) **Patent No.:** **US 6,951,081 B2**
(45) **Date of Patent:** **Oct. 4, 2005**

(54) **WATER DEFLECTING APPARATUS**

(76) Inventor: **David J. Bonshor**, 1652 - 138 Street,
Surrey, BC (CA), V4A 8N3

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 20 days.

(21) Appl. No.: **10/328,018**

(22) Filed: **Dec. 26, 2002**

(65) **Prior Publication Data**

US 2003/0136060 A1 Jul. 24, 2003

Related U.S. Application Data

(60) Provisional application No. 60/343,997, filed on Jan. 2,
2002.

(51) **Int. Cl.**⁷ **E04D 13/00**; E04D 1/36;
E04B 1/70

(52) **U.S. Cl.** **52/97**; 52/58; 52/60; 52/302.1

(58) **Field of Search** 52/58, 211, 302.1,
52/302.6, 60, 97; 248/205.1, 906

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 4,381,063 A 4/1983 Leong
- 4,646,488 A * 3/1987 Burns 52/94
- 4,726,152 A 2/1988 Vagedes et al.
- 4,875,318 A 10/1989 MacLeod et al.

- 4,920,708 A 5/1990 MacLeod et al.
- 5,000,409 A 3/1991 MacLeod et al.
- 5,018,333 A * 5/1991 Bruhm 52/741.4
- 5,303,522 A 4/1994 Vagedes
- 5,326,060 A 7/1994 Chubb et al.
- 5,549,266 A 8/1996 Mitchell et al.
- 5,675,940 A * 10/1997 Bahar et al. 52/58
- 5,918,431 A 7/1999 Schiedegger et al.
- 6,076,310 A 6/2000 Kim
- 6,119,416 A 9/2000 Larson
- 6,151,838 A * 11/2000 Husein 52/58
- 6,155,008 A * 12/2000 McKee 52/198

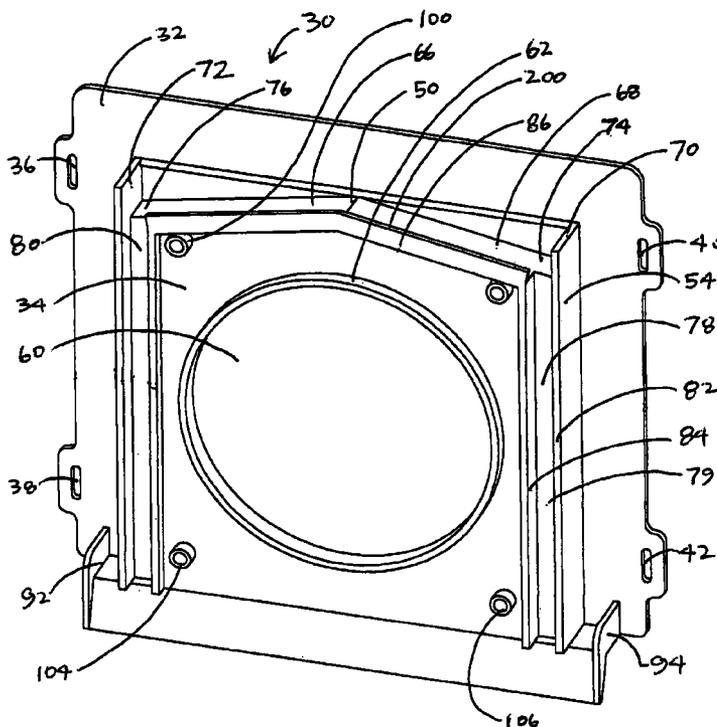
* cited by examiner

Primary Examiner—Peter M. Cuomo
Assistant Examiner—Sarah C. Burnham
(74) *Attorney, Agent, or Firm*—Norman M Cameron

(57) **ABSTRACT**

A water deflecting apparatus is provided for a fixture mounted on a wall. The apparatus comprises a mounting plate having a front and a back. A protrusion extends outwardly from the front of the mounting plate, the protrusion having an aperture for extending about the fixture, a bottom and a top which slopes downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening. A passageway extends downwardly from the top towards the bottom thereof and is spaced-apart from the opening, thereby deflecting water away from the fixture.

43 Claims, 7 Drawing Sheets



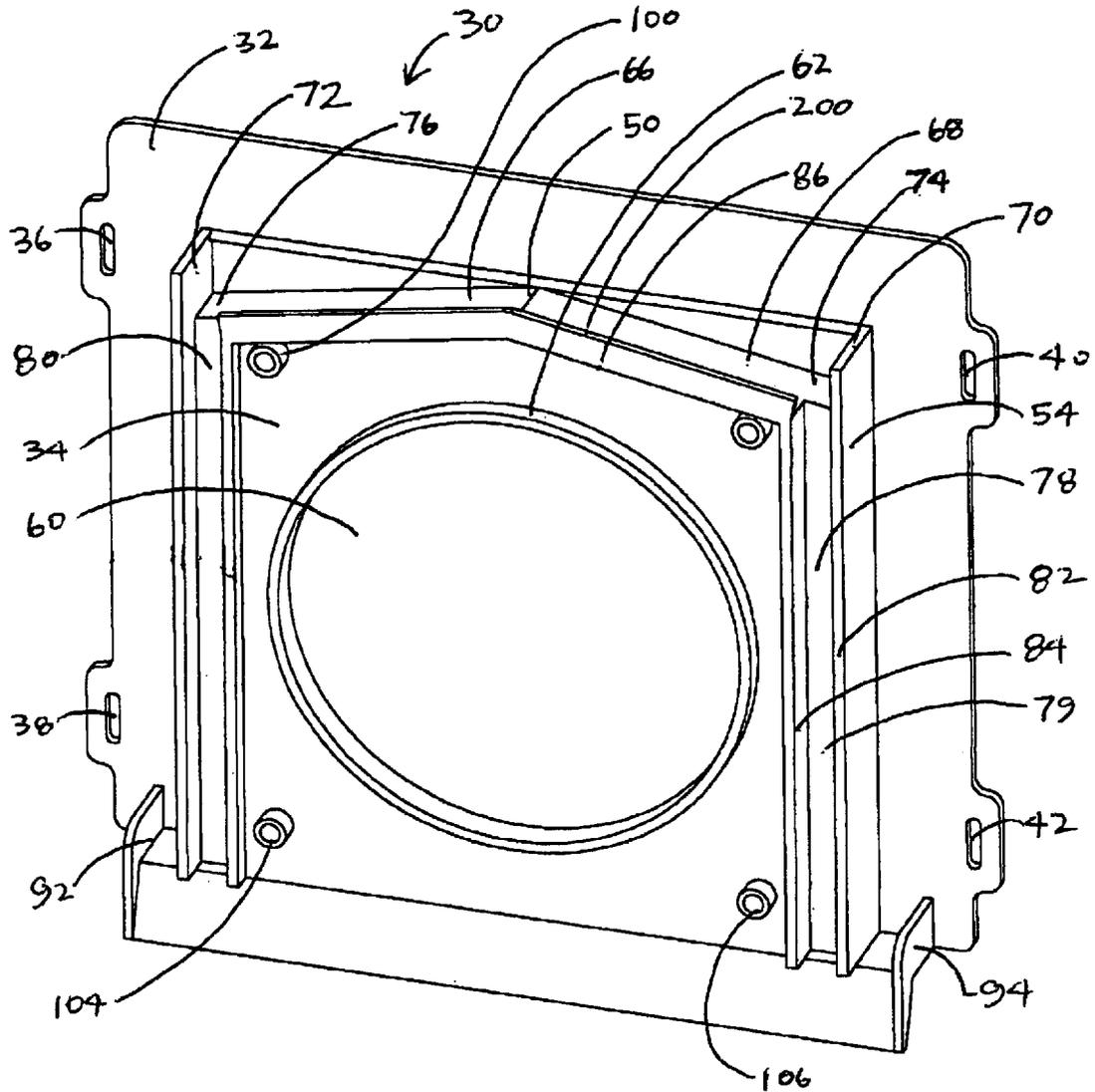


Fig. 1

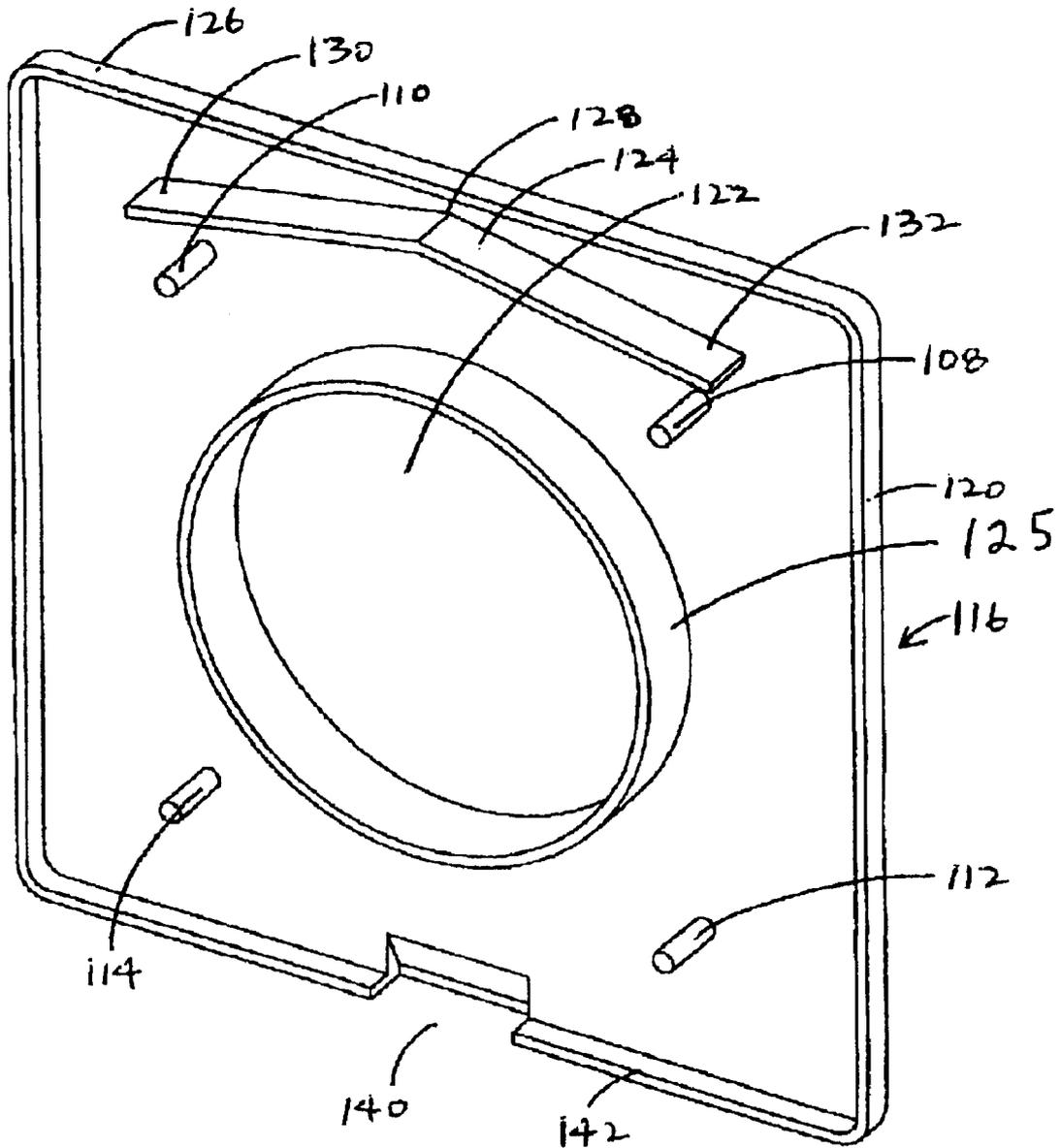


Fig. 2

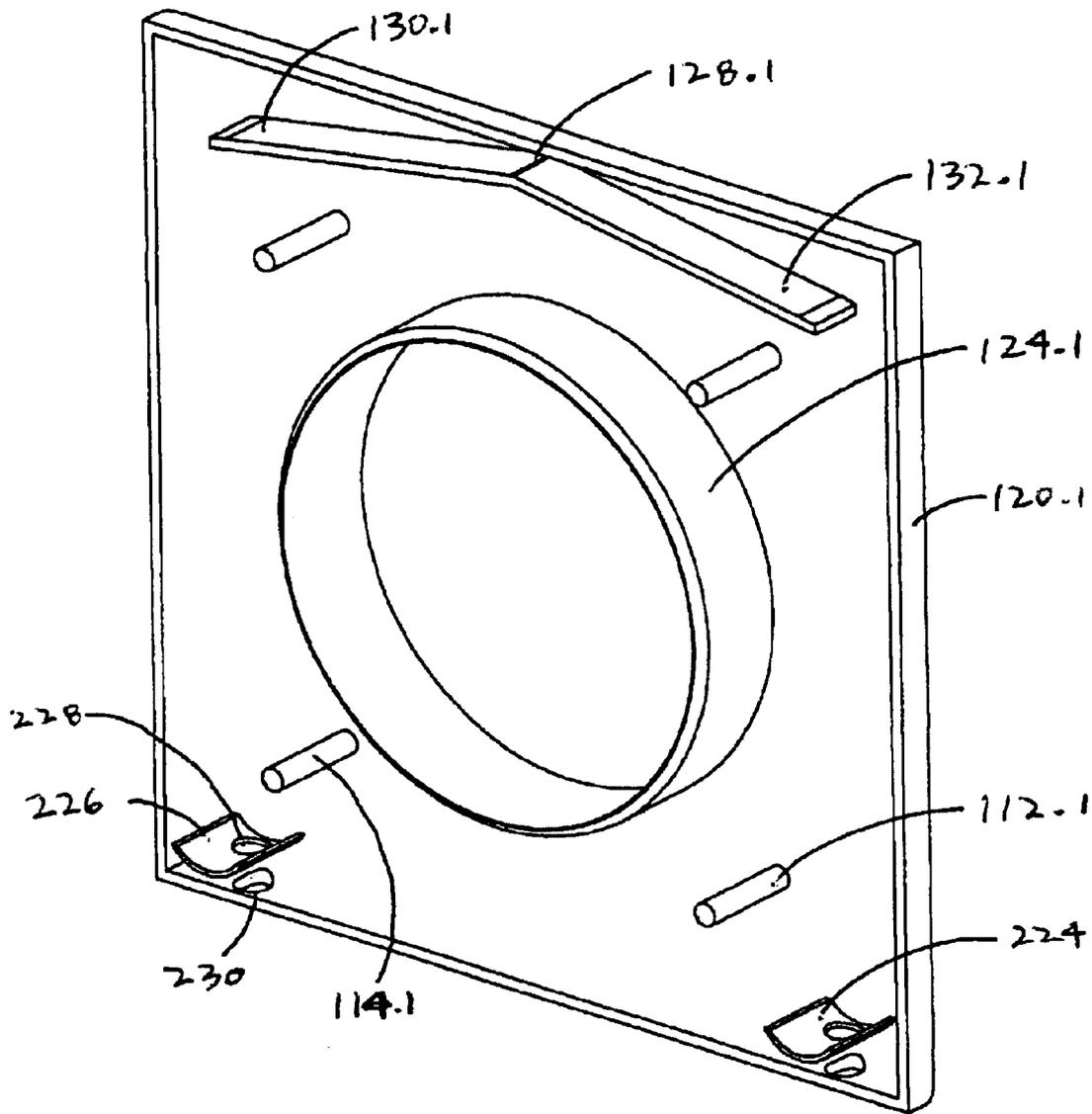


Fig. 4

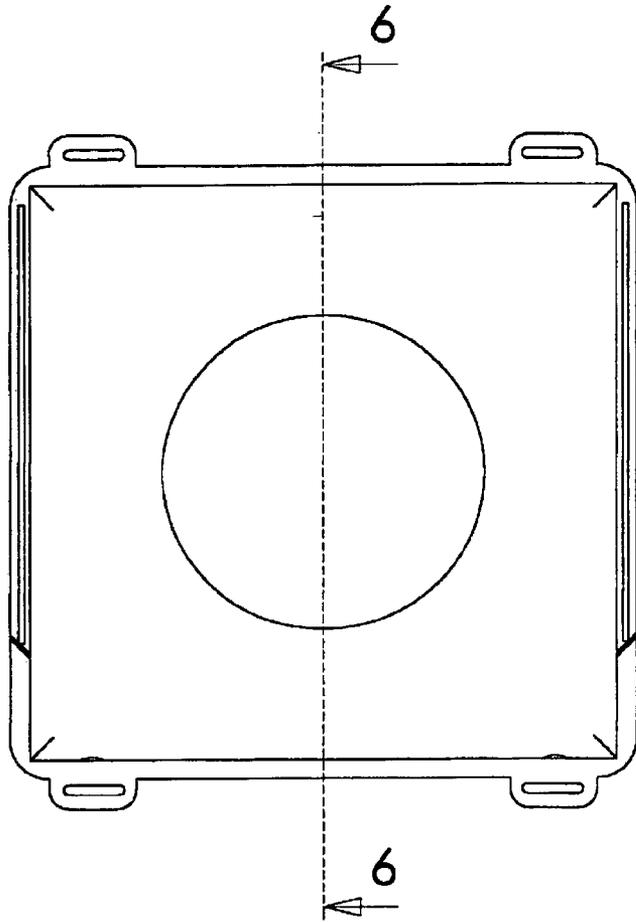
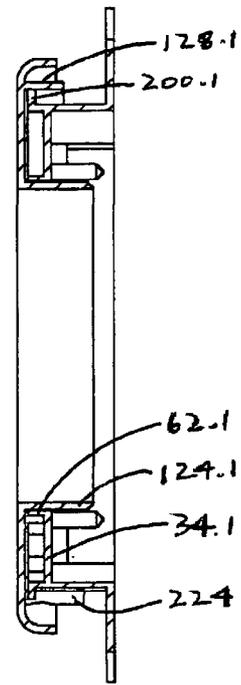


Fig. 5



6-6

Fig. 6

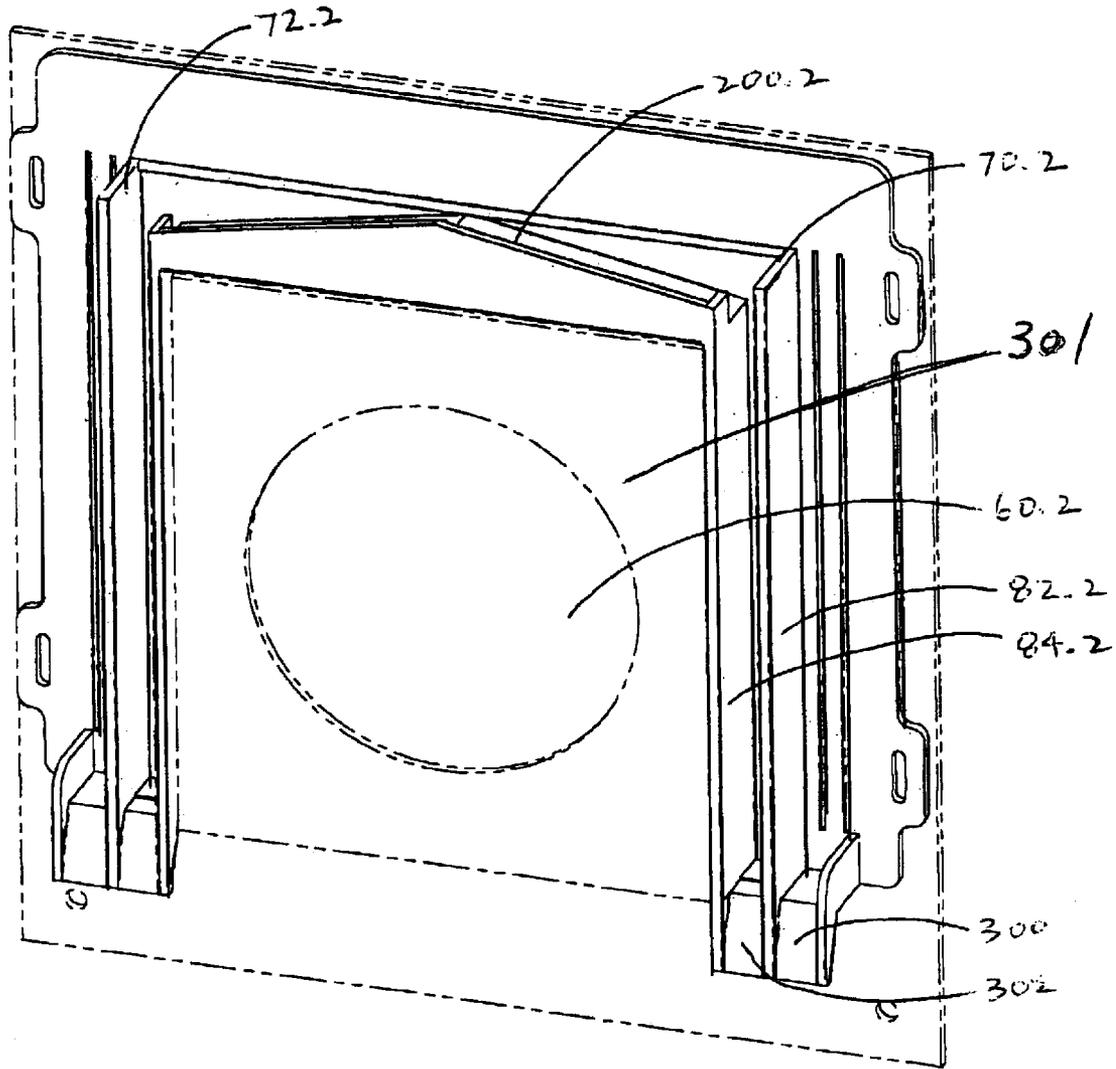


Fig. 8

1

WATER DEFLECTING APPARATUS**CROSS-REFERENCE TO RELATED APPLICATION**

This application claims the benefit of provisional application 60/343,997 filed Jan. 2, 2002.

BACKGROUND OF THE INVENTION

This invention relates to water deflecting apparatuses and, in particular, to water deflecting apparatuses for deflecting water away from outdoor fixtures.

Outdoor electrical fixtures present a significant risk for water seeping into the walls of a building and causing damage over time. Various apparatuses have been developed in the past to try and alleviate this problem, but without complete success. One of the reasons for this is that such apparatuses are aimed more at directing water away from the fixture and are not designed to prevent water from seeping between the exterior cladding of the building and the sheathing. Typically such apparatuses include a mounting flange which is nailed to the sheathing and the cladding is placed over the mounting flange. There is a central protrusion with an aperture receiving the fixture. The protrusion deflects water away from the fixture, but potentially the water may accumulate between the cladding and the sheathing, leading to water damage of the sheathing or other building components.

Typical devices developed in the past included a basic piece which is attached to the wall sheathing of the building's structure and a cover plate which installs over the top of the base piece. Earlier patents showing similar devices include U.S. Pat. Nos. 4,726,152; 4,920,708; 5,549,266; 6,076,310 and 5,303,522.

SUMMARY OF THE INVENTION

There is provided, according to one aspect of the invention, a water deflecting apparatus for a fixture mounted on a wall. The apparatus comprises a member having a mounting plate with a front and a back. A protrusion extends outwardly from the front of the mounting plate, the protrusion having an opening for extending about the fixture, a bottom and a top which slopes downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening. A passageway extends downwardly from the top towards the bottom thereof and is spaced-apart from the opening, thereby deflecting water away from the fixture.

The protrusion may have opposite sides, the top having a center between the two sides and being sloped downwardly from the center towards the sides, the apparatus having one said passageway along each said side.

The sides may have upwards extensions adjacent each of the sides which extend upwardly beyond the passageways, the passageways being between the extensions and the top, the extensions directing water into the passageways.

The apparatus may include a cover plate releasably connected to the protrusion.

In one example The member has an open bottom. The opening is rectangular and is dimensioned to fit about pre-existing fixture mounting brackets.

The invention offers significant advantages compared to prior art. In particular it provides means for channelling water away from the interface between the exterior siding and the sheathing of the wall of the building. Prior art

2

devices have not incorporated features which sufficiently channel water away from this interface, thus permitting water to build up against the sheathing and eventually causing water damage and rotting of the sheathing. The invention, on the other hand, channels water outwardly to the exterior of the cladding and thus avoids water damage.

BRIEF DESCRIPTION OF THE DRAWINGS

In drawings which illustrate embodiments of the invention:

FIG. 1 is a front, isometric view of a rear portion of an apparatus for deflecting water from a fixture mounted on a wall, according to an embodiment of the invention;

FIG. 2 is a rear, isometric view of the cover thereof;

FIG. 3 is a view similar to FIG. 1 of an apparatus for deflecting water according to an alternative embodiment of the invention;

FIG. 4 is a view similar to FIG. 2, but showing the cover for the embodiment of FIG. 3;

FIG. 5 is a front plan view of the embodiment of FIG. 3;

FIG. 6 is a sectional view taken along line 6—6 of FIG. 5;

FIG. 7 is a front plan view, partly broken away, of the embodiment of FIG. 1 mounted on a wall shown in fragment; and

FIG. 8 is an isometric view similar to FIG. 1 of a further alternative embodiment of the invention intended to fit over an existing fixture mounting bracket, the existing fixture mounting bracket being shown in ghost.

DETAILED DESCRIPTIONS OF THE PREFERRED EMBODIMENTS

Referring to the drawings, and first to FIG. 7, the shows an apparatus 20, according to an embodiment of the invention, for deflecting water from an electrical fixture 21 mounted on a wall 22 which includes sheathing 26 covered by siding 24. The invention is however not restricted to electrical fixtures. It can also be used for dryer vents, pipes and other "through-wall" protrusions or openings. In this example the siding is aluminum siding, although the invention is also applicable to vinyl siding and other stepped siding overlays. The apparatus 20 includes an inner, or rear, member 30 including a mounting plate 32 and a protrusion 34 best seen in FIG. 1. The mounting plate is rectangular and has a series of four tabs 36, 38, 40 and 42, each having a slotted opening 44 in this example to receive a fastener, such as nails 44 and 46, shown in FIG. 7, to mount the apparatus on the sheathing 26.

Protrusion 34 is generally rectangular as seen in FIG. 1, having a top 50, a bottom 52, a right side 54 and a left side 56. The terms "top, bottom, right and left" are used in relation to the position shown in FIGS. 1 and 7 as the apparatuses are mounted on a wall. The protrusion has an opening 60, circular in this example, for extending about the fixture 21. A circular flange 62 extends about the opening. In other embodiments the fixture could be rectangular, for example to house a pair of electrical sockets, and the aperture would be correspondingly rectangular.

The top 50 includes two portions 66 and 68 which slope downwardly from center 70 of the top towards the sides 56 and 54 respectively. The sloping portions of the top, as may be seen, deflect water from the top towards the sides 54 and 56. There is an upstanding flange 200 extending along the front of the top and spaced-apart from the mounting plate 32.

The sides **54** and **56** have upward extensions **70** and **72** respectively which extend above adjoining ends **74** and **76** of the top and divert water into passageways **78** and **80** which extend from top **50** to bottom **52** of the protrusion. The passageways in this example are formed by spaced-apart flanges **82** and **84** shown for passageway **78** in FIG. 1, and a connecting web **79**. Flange **82** extends from the bottom of the protrusion to the top of upward extension **70**, while flange **84** extends from the bottom of the protrusion to the top thereof where it merges with flange **86** extending along the front of the top.

There is a skirt **90** serves as a diverter extending along the bottom of the rear member **30** between brackets **92** and **94**. In use, the skirt fits over the siding **24** as seen in FIG. 7 to divert water away from the mounting plate and shed water onto the exterior of the siding.

The member **30** has four sockets **100**, **102**, **104** and **106** located near the corners thereof which receive four pins **108**, **110**, **112** and **114** of cover plate **116**, best shown in FIG. 2. The cover plate is rectangular, having a flange **120** extending around all four sides. The cover has an aperture **122** surrounded by a flange **125** which in this example is circular and slightly larger in diameter than the flange **62** on the rear portion **30**. The flange **125** fits over the flange **62** and snugly engages the flange when the apparatus is assembled as shown in FIG. 7.

The cover plate has a deflector **124** near top **126** thereof with a center **128** and opposite ends **130** and **132**. The deflector is sloped downwardly from the center towards the opposite ends and is generally similar in shape to the top of the protrusion **34** shown in FIG. 1. The deflector fits over the top of the protrusion to further deflect water away from the fixture **21**. However this deflector can be omitted in alternative embodiments of the invention. The cover plate has a slot **140** in the flange **120** near the center of the bottom **142** of the cover plate. This provides an exit for water accumulating on the top of the flange.

As may be seen in FIG. 7, the siding **24** is fitted over the mounting plate **34**, but is cut to extend about the protrusion **34** and with skirt **90** fitting over the siding. It may be seen that any water entering the top of the apparatus **20** falls on either deflector **124** of the cover plate or top **50** of the protrusion, both of which slope downwardly towards the sides of the protrusion. The water is then directed by upward extensions **70** and **72** into the passageways **78** and **80** where it drops downwardly and is deflected over the siding **24** by skirt **90** and can exit the apparatus through the slot **140** in the cover plate.

An alternative embodiment to shown in FIGS. 3–6 where like parts have like numbers with the addition of “0.1”. This embodiment is generally similar to the previous embodiment but includes some additional features. There is a series of four deflectors **202**, **204**, **206** and **208** on front **210** of the protrusion below the top **50.1** thereof. Each of these deflectors extends downwardly and outwardly towards sides **54.1** or **56.1** where they communicate with one of the passageways **78.1** or **80.1**. For example, deflector **202** communicates with passageway **80.1** through slot **210**, while deflector **206** communicates with the same passageway through slot **212**. Likewise the deflectors **204** and **208** communicate with passageway **78.1** through slot **214** and **216**, respectively. There is a series of grooves **217,219**, three in this example, extending vertically along the mounting plate to each side of the protrusion. There is an angled diverter **221,223**, at the bottom of each set of grooves extending to a position above each of the troughs **222** and **220** respectively.

Also this embodiment has a pair of troughs **220** and **222** adjacent the bottoms of the passageways **80.1** and **78.1** respectively. These troughs serve as diverters and extend outwardly away from the mounting plate **32.1**. This embodiment does not have a skirt similar to skirt **90** of the previous embodiment. Instead, cover plate **116.1**, shown in FIG. 4, has a pair of troughs **224** and **226** which fit below the troughs **220** and **222** shown in FIG. 3. Each of these has an opening **228** located above an opening **230** in flange **120.1** which provides an exit for water.

FIG. 8 shows a further alternative embodiment of the invention which is generally similar to the embodiment of FIG. 3, but is intended to fit over an existing, conventional fixture mounting bracket **301** shown in ghost. Accordingly bottom to **98** is open and opening **60.2** is rectangular and is dimensioned to fit over existing brackets (5.100"×5.701") in this example. In place of the troughs it has a pair of individual diverters or spouts **300** and **302** on each side. As seen for passageway **78.2**, there is a spout **302** at the bottom of each of the passageways. Spout **300** is located at the bottom of member **30** between bracket **94** and flange **82**. These spouts serve to discharge water in the same manner as the skirt **90** shown in FIG. 7.

The protrusions of the above examples are peaked in the center and slope downwardly towards the sides of the protrusion. In other examples the tops could be sloped towards one side only with a single passageway for water down that side.

It will be understood by someone skilled in the art that many of the details described above are given by way of example only and can be omitted or altered without departing from the scope of the invention which is to be interpreted with reference to the following claims.

What is claimed is:

1. A water deflecting apparatus for a fixture mounted on a wall, the apparatus comprising a member having:

a mounting plate with a front and a back;

a protrusion extending outwardly from the front of the mounting plate, the protrusion having an opening for extending about the fixture, a bottom and a top which slopes downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening, and a passageway extending downwardly from the top towards the bottom thereof and spaced-apart from the opening, thereby deflecting water away from the fixture, the top having a front spaced-apart from the mounting plate and an upstanding flange extending along the front; and

a cover plate releasably connected to the protrusion, the cover plate having a deflector generally similar in shape to the top of the protrusion and which fits over the top of the protrusion to deflect water therefrom.

2. The apparatus as claimed in claim 1, wherein the protrusion has opposite sides, the top having a center between the two sides and being sloped downwardly from the center towards the sides, the apparatus having one said passageway along each said side.

3. The apparatus as claimed in claim 2, each said passageway having a bottom, the apparatus including a diverter adjacent to the bottom of each said passageway which diverts water away from the mounting plate.

4. The apparatus as claimed in claim 3, the sides having upwards extensions adjacent each of the sides which extend upwardly beyond the passageways, the passageways being between the extensions and the top, the extensions directing water into the passageways.

5

5. The apparatus as claimed in claim 4, wherein the passageways are formed by a pair of spaced apart flanges on the protrusion which extend downwardly and have bottoms below the opening.

6. The apparatus as claimed in claim 1, wherein the protrusion has a flange extending about the opening, the cover plate having an opening aligned with the opening in the protrusion and having a flange which tightly and releasably engages the flange on the protrusion.

7. The apparatus as claimed in claim 6, wherein the cover plate has a bottom and a slot therein, permitting water to exit the apparatus.

8. The apparatus as claimed in claim 1, wherein the cover plate deflector has a raised center and slopes downwardly from the center towards opposite sides thereof adjacent the sides of the protrusion.

9. The apparatus as claimed in claim 8, having at least one deflector on the protrusion extending downwardly and outwardly and being located below the top of the protrusion, said at least one deflector communicating outwardly with one of the passageways to deflect water from the opening into the passageway.

10. The apparatus as claimed in claim 9, including troughs adjacent to the bottoms of the passageways and extending outwardly away from the mounting plate.

11. The apparatus as claimed in claim 1, wherein the opening is dimensioned to fit about pre-existing fixture mounting brackets.

12. A water deflecting apparatus for a fixture mounted on a wall, the apparatus comprising a member having:

a mounting plate with a front and a back;

a protrusion extending outwardly from the front of the mounting plate, the protrusion having an aperture for extending about the fixture, a bottom, a top and a passageway extending downwardly from the top towards the bottom thereof and spaced-apart from the opening, thereby deflecting water away from the fixture, the passageway being spaced-apart outwardly from the mounting plate, thereby deflecting water from the mounting plate, the top sloping downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening, the top having a front spaced-apart from the mounting plate and an upstanding flange extending along the front; and

a cover plate releasably connected to the protrusion, the cover plate having a deflector generally similar in shape to the top of the protrusion which fits over the top of the protrusion to deflect water therefrom.

13. The apparatus as claimed in claim 12, wherein the passageway has a bottom, the apparatus including a diverter adjacent to the bottom of the passageway which diverts water away from the mounting plate.

14. In combination

a wall;

a fixture mounted on the wall; and

a water deflecting apparatus mounted on the wall, the apparatus including a member having a mounting plate with a front and a back, a protrusion extending outwardly from the front of the mounting plate, the protrusion having an opening extending about the fixture, a bottom and a top which slopes downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening, the protrusion having a first flange and a second flange, the first flange and the

6

second flange extending downwardly from the top towards the bottom thereof, the first flange being spaced-apart from the opening, the second flange being spaced apart from the first flange to form a passageway therebetween, the top having a front and an upstanding flange extending along the front and spaced apart from the mounting plate, the top sloping downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening, the protrusion having opposite sides, the top having a center between the two sides and being sloped downwardly from the center towards the sides, the apparatus having one said passageway along each said side, a cover plate releasably connected to the protrusion, the cover plate having a deflector generally similar in shape to the top of the protrusion which fits over the top of the protrusion to deflect water therefrom.

15. The combination as claimed in claim 14, the sides having upwards extensions adjacent each of the sides which extend upwardly beyond the passageways, the passageways being between the extensions and the top, the extensions directing water into the passageways.

16. The combination as claimed in claim 15, wherein the passageways are formed by a pair of spaced apart flanges on the protrusion which extend downwardly and have bottoms below the opening.

17. The combination as claimed in claim 16, including troughs adjacent to the bottoms of the passageways and extending outwardly away from the mounting plate.

18. The combination as claimed in claim 16, each said passageway having a bottom, the apparatus including a diverter adjacent to the bottom of each said passageway which diverts water away from the mounting plate.

19. The combination as claimed in claim 14, wherein the protrusion has a flange extending about the opening, the cover plate having an opening aligned with the opening in the protrusion and having a flange which tightly and releasably engages the flange on the protrusion.

20. The combination as claimed in claim 19, wherein the cover plate has a bottom and a slot therein, permitting water to exit the apparatus.

21. The combination as claimed in claim 14, wherein the cover plate deflector has a raised center and slopes downwardly from the center towards opposite sides thereof adjacent the sides of the protrusion.

22. The combination as claimed in claim 21, having at least one deflector on the protrusion extending downwardly and outwardly and being located below the top of the protrusion, said at least one deflector communicating outwardly with one of the passageways to deflect water from the opening into the passageway.

23. The combination as claimed in claim 14, including siding connected to the wall and extending over the mounting plate about the protrusion on a side of the second flange opposite the passageway and between the mounting plate and the cover plate.

24. The combination as claimed in claim 14, wherein the opening fits about a conventional fixture mounting bracket mounted on the wall.

25. A water deflecting apparatus for a fixture mounted on a wall, the apparatus comprising a member having:

a mounting plate with a front and a back;

a protrusion extending outwardly from the front of the mounting plate, the protrusion having opposite sides, an opening for extending about the fixture, a bottom, a top and a passageway along each side extending down-

7

wardly from the top towards the bottom thereof and spaced-apart from the opening, the top having a center between the opposite sides and being sloped downwardly from the center towards the sides when the sides when the apparatus is mounted on the wall, thereby deflecting water towards the opposite sides of the opening towards respective passageways, each said passageway having a bottom, the apparatus including a diverter adjacent to the bottom of each said passageway which diverts water away from the mounting plate; and a cover plate releasably connected to the protrusion, the passageway being between the cover plate and the protrusion to form a duct to guide the water to the bottom.

26. The apparatus as claimed in claim 25, the sides having upwards extensions adjacent each of the sides which extend upwardly beyond the passageways, the passageways being between the extensions and the top, the extensions directing water into the passageways.

27. The apparatus as claimed in claim 26, wherein the passageways are formed by a pair of spaced apart flanges on the protrusion which extend downwardly and have bottoms below the opening.

28. The apparatus as claimed in claim 27, wherein the protrusion has a flange extending about the opening, the cover plate having an opening aligned with the opening in the protrusion and having a flange which tightly and releasably engages the flange on the protrusion.

29. The apparatus as claimed in claim 28, wherein the cover plate has a bottom and a slot therein, permitting water to exit the apparatus.

30. The apparatus as claimed in claim 29, wherein the cover plate deflector has a raised center and slopes downwardly from the center towards opposite sides thereof adjacent the sides of the protrusion.

31. The apparatus as claimed in claim 30, having at least one deflector on the protrusion extending downwardly and outwardly and being located below the top of the protrusion, said at least one deflector communicating outwardly with one of the passageways to deflect water from the opening into the passageway.

32. The apparatus as claimed in claim 31, including troughs adjacent to the bottoms of the passageways and extending outwardly away from the mounting plate.

33. The apparatus as claimed in claim 32, wherein the opening is rectangular and is dimensioned to fit about pre-existing fixture mounting brackets.

34. A water deflecting apparatus for a fixture mounted on a wall with siding, the apparatus comprising a member having:

- a mounting plate with a front and a back; and
- a protrusion extending outwardly from the front of the mounting plate, the protrusion having an opening for

8

extending about the fixture, a bottom end a top which slopes downwardly to at least one side of the opening when the apparatus is mounted on the wall, thereby deflecting water towards said at least one side of the opening, the protrusion having a first flange and a second flange, the first flange and the second flange extending downwardly from the tap towards the bottom thereof, the first flange being spaced-apart from the opening, the second flange being spaced apart from the first flange to form a passageway therebetween;

the passageway guiding water from the top to the bottom, the siding fitting over the mounting plate about the protrusion on a side of the second flange opposite the passageway.

35. The apparatus as claimed in claim 34, wherein the protrusion has opposite sides, the top having a center between the two sides and being sloped downwardly from the center towards the sides, the apparatus having one said passageway along each said side.

36. The apparatus as claimed in claim 35, each said passageway having a bottom, the apparatus including a diverter adjacent to the bottom of each said passageway which diverts water away from the mounting plate.

37. The apparatus as claimed in claim 36, the sides having upwards extensions adjacent each of the sides which extend upwardly beyond the passageways, the passageways being between the extensions and the top, the extensions directing water into the passageways.

38. The apparatus as claimed in claim 37, wherein the protrusion has a flange extending about the opening, the cover plate having an opening aligned with the opening in the protrusion and having a flange which tightly and releasably engages the flange on the protrusion.

39. The apparatus as claimed in claim 38, wherein the cover plate has a bottom and a slot therein, permitting water to exit the apparatus.

40. The apparatus as claimed in claim 39, wherein the cover plate deflector has a raised center and slopes downwardly from the center towards opposite sides thereof adjacent the sides of the protrusion.

41. The apparatus as claimed in claim 40, having at least one deflector on the protrusion extending downwardly and outwardly and being located below the top of the protrusion, said at least one deflector communicating outwardly with one of the passageways to deflect water from the opening into the passageway.

42. The apparatus as claimed in claim 41, including troughs adjacent to the bottoms off the passageways and extending outwardly away from the mounting plate.

43. The apparatus as claimed in claim 42, wherein the opening is rectangular and is dimensioned to fit about pre-existing fixture mounting brackets.

* * * * *